

FLEXIBLE TRACK DRILLING MACHINE

ABSTRACT OF THE DISCLOSURE

5 A flexible track drilling machine employs a pair of rails that are flexible in one
direction to conform to a non-flat workpiece surface and are substantially stiff in a
direction parallel to the workpiece surface. The rails are attached to the workpiece by
vacuum cups spaced along each rail. An X-axis carriage is slidably mounted on the rails
by rollers mounted on flexible spring plates affixed to the carriage. A drill or other
device to be positioned is mounted on a Y-axis carriage that is slidably connected to the
10 X-axis carriage. The three-dimensional surface of the workpiece is mathematically
transformed into a two-dimensional flat pattern, and the positioning of the carriages is
controlled based on the flat pattern.

15 CLT01/4459902v1